

Appl. No. 09/392,454
Response dated November 10, 2004

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. (original) In an ATM network, in which ATM traffic is carried on a physical network adhering to a physical layer protocol, a method of switching traffic transported on a working entity of said ATM network to a protection entity on said ATM network comprising:

- a) monitoring an indicator of signal degrade of said working entity provided by said physical layer protocol;
- b) in response to detecting a degraded signal as a result of said monitoring, generating ATM cells indicative of said signal degrade on said ATM network.

Claim 2. (original) The method of claim 1, further comprising:

- c) in response to said ATM cells indicative of said signal degrade, receiving said traffic on said protection entity.

Claim 3. (original) The method of claim 2, further comprising:

- d) in response to said ATM cells indicative of said signal degrade, transmitting said traffic on said protection entity from a source network element.

Claim 4. (original) The method of claim 1, wherein said physical network comprises a synchronous optical network ("SONET").

Claim 5. (original) The method of claim 4, wherein said monitoring comprises calculating a bit-error-rate from SONET path overhead.

Appl. No. 09/392,454
Response dated November 10, 2004

- Claim 6. (original) The method of claim 5, wherein said calculating utilizes a parity check field within said SONET path overhead to determine said bit error rate.
- Claim 7. (original) The method of claim 6, wherein said ATM cells indicative of signal degrade are generated in response to said bit-error-rate exceeding a defined threshold.
- Claim 8. (original) The method of claim 7, wherein said ATM cells comprise ATM alarm Indication signal ("AIS") cells.
- Claim 9. (original) The method of claim 8, wherein said AIS cells are transmitted from a network element detecting said signal degrade to a downstream network element using an ATM signaling channel.
- Claim 10. (original) The method of claim 9, wherein said ATM signaling channel comprises an ATM protection switching channel.
- Claim 11. (original) The method of claim 7, wherein said ATM cells comprise an ATM protection switching coordination protocol ("CP") cell.
- Claim 12. (original) The method of claim 11, wherein said CP cell is transmitted within one of said working entity and said protection entity.
- Claim 13. (currently amended) A network element for use in an ATM network, in which ATM traffic is carried on a physical network adhering to a physical layer protocol, said network element operable to cause traffic transported on a working entity of said ATM network to be transported on a protection entity on said ATM network, said network element comprising:
- a detector for monitoring an indicator of signal degrade of said working entity provided by said physical layer protocol, and generating a trigger

Appl. No. 09/392,454
Response dated November 10, 2004

Indicative of signal degrade on said working entity to cause said network element to generate ATM cells indicative of said signal degrade on aid ATM network.

Claim 14. (cancelled)

Claim 15. (currently amended) The network element of claim 14-13, further comprising an ATM switch, in communication with an ATM processor, wherein said detector is in communication with said ATM processor, and wherein said ATM processor generates ATM cells indicative of signal degrade in response to said trigger.

Claim 16. (original) The network element of claim 13, wherein said ATM cells comprise ATM alarm indication signal ("AIS") cells.

Claim 17. (currently amended) The network element of claim 14-13, wherein said ATM cells comprise an ATM protection switching coordination protocol ("CP") cell.

Claim 18. (original) The network element of claim 16, wherein said AIS cells are transmitted to a downstream network element using an ATM signaling channel.

Claim 19. (original) A network element for use in an ATM network, in which ATM traffic is carried on a physical network adhering to a physical layer protocol, said network element operable to switch traffic transported on a working entity of said ATM network to a protection entity on said ATM network, said network element comprising:

means for monitoring an indicator of signal degrade at said physical layer of said working entity provided by said physical layer protocol;

means for generating ATM cells indicative of signal degrade in

Appl. No. 09/392,454
Response dated November 10, 2004

response to said means for monitoring signal degrade at said physical layer.

Claim 20. (original) Computer memory storing program instructions, adapting an ATM network element on ATM network in which ATM traffic is carried on a physical network adhering to a physical layer protocol, to:

- a) monitor an indicator of signal degrade of a working entity on said ATM network provided by said physical layer protocol;
- b) in response to detecting a degraded signal as a result of said monitoring, generate ATM cells indicative of said signal degrade on said ATM network.

Claim 21. (original) An ATM cell comprising an alarm Indication signal ("AIS"), embodied in a carrier wave to be transported on an ATM network, said cell comprising:

- a) a field identifying said cell as an ATM AIS cell;
- b) a field including an indicator of signal degrade on said network.

Claim 22. (previously presented) In a communications network in which ATM traffic is transported on a SONET network a method of switching traffic transported on a working ATM entity to a protection ATM entity, said method comprising:

- a. monitoring an indicator of signal degrade of said working entity by monitoring an indicator of signal degrade in SONET overhead on said SONET network;
- b. in response to detecting a degraded signal as a result of said monitoring, generating ATM cells indicative of the signal degrade to be transported to at least one adjacent node on said network.

Appl. No. 09/392,454
Response dated November 10, 2004

Claim 23. (previously presented) The method of claim 22, further comprising:

- c) in response to said ATM cells indicative of said signal degrade,
receiving said traffic on said protection entity.

Claim 24. (previously presented) The method of claim 22, further comprising:

- d) in response to said ATM cells indicative of said signal degrade,
transmitting said traffic on said protection entity from a source network
element.

Claim 25. (previously presented) The method of claim 22, wherein said
monitoring comprises calculating a bit-error-rate from SONET path
overhead.

Claim 26. (previously presented) The method of claim 25, wherein said
calculating utilizes a parity check field within said SONET path overhead to
determine said bit error rate.